

90. Collaboration between categorical and deductive specific Modelling System, second stage



Dr. Ruben Garcia Pedraza

[Probabilidad Imposible: Collaboration between categorical and deductive specific Modelling System, second stage](#)

imposiblenever@gmail.com

90. Collaboration between categorical and deductive specific Modelling System, second stage

The [collaboration process](#) is the second phase in the proposal of [Impossible Probability](#) for the construction of the [Global Artificial Intelligence](#), the first phase is the constructions of the first [Specific Artificial Intelligences for Artificial Research by Deduction](#), and the first [Specific Artificial Intelligences for Artificial Research by Application](#), distinguishing in this last one between Heuristic Artificial Research by Application, Productive Artificial Research by Application, and Mixed Artificial Research by Application.

In the second phase, all these intelligences should be able to collaborate between them, as propedic for upcoming processes where at the end, as many intelligences by Deduction as possible must be joined in only one intelligence, the [standardized Global Artificial Intelligence](#) (third phase), and as many specific intelligences by Application as possible must be joined in only one intelligence by Application, the [Unified Application](#), transforming the rest of intelligences not joined to these standardized or unified intelligences or applications into particular programs or particular applications, to be joined later forming [particular programs for particular applications or particular applications for particular programs](#) (fifth phase), ending up all the process in the sixth phase where the Unified Application and the standardized Global Artificial Intelligences are joined in only one intelligence, the [integrated Global Artificial Intelligence](#) having under control all remaining specific intelligence, all remaining particular program or application, all particular programs for particular applications and particular applications for particular programs, having the possibility to manage [the world](#) under only one database, [matrix](#), as global replica of the human brain to rule the world and beyond, [the universe](#).

In the realization of such a vast project the real importance of the collaboration phase, the second phase, resides in the fact that for first time intelligences by Application and by Deduction are going to be able to co-work in specific [sciences](#), disciplines, activities, what is going to set up the real foundations for the future collaboration process of these two models of intelligence, application as a list of concepts or synthetic categories, deduction as a matrix to be tracked by pure categories (pure reasons, equations),

deductions whose form is a [rational hypothesis](#) as another synthetic category formed by pure reason and [data](#), rational hypothesis as synthetic category able to be included as a synthetic category within the database of synthetic categories in the application, transforming the rational hypothesis as a [factor](#) as an [option](#) or a range of discrete categories, option or discrete categories able to be understood as a conceptual category to be included into the conceptual [database of categories](#) as first stage by Application.

And vice versa, every new category added to the conceptual database of categories as the first stage by Application, could be transformed into a factor as an option to be included in the [matrix](#) as the first stage by Deduction.

This type of collaboration interchanging categories/factors between the conceptual database of categories as first stage by Application, and a matrix as first stage by Deduction, is called the conceptual/factor collaboration, and this collaboration is not restricted only to sharing new factors or categories, but sharing any possible modification of any category/factor in common between these two types of intelligence.

If a category in the database by Application has as a correlation a factor in the matrix by Deduction, any modification that the application can make over the category, or any modification that the Deduction can make over the factor, are modifications of that category/factor that must be communicated immediately to that intelligence working with that category/factor in common.

If an intelligence by Application makes a modification in any category shared with another matrix, the Application should communicate to that other matrix the modification in that category.

If by Deduction a change is made in any factor shared with another application, that intelligence by Deduction must communicate to that other application any change in that category.

If sharing two intelligences the same item, working in one of them as a category in the other as a factor, if this item is eliminated in the matrix or the application, the item must be eliminated as well in the application or the matrix.

The relation between the application, as a list of synthetic categories, and the matrix as a matrix of data to be tracked by pure categories, is like a mirror, at the end of these process, by the time that the integration process starts, or even before, if not all practically almost of all them, all the categories or almost all the categories should be transformed into factors, and vice versa, all the factors or almost all the factors should be translated into categories, so at the end the way in which the two hemispheres of the integrated matrix in the sixth phase is going to work is like a mirror, what in one hemisphere is described as quantitative qualities in the other hemisphere is reflected as a factor to count frequency of direct punctuations, to be tracked by the pure reasons to make rational hypothesis as new synthetic categories to be added to both sides of the mirror, both sides of the global brain.

Understanding the integrated matrix as a mirror means that the correlation between factors and categories is a correlation where every factor in the factual hemisphere will have a translation as a category within the conceptual hemisphere.

This does not mean that for every singular factor, there will be a singular category, for instance, there will be thermometers working as factors as subjects in millions and millions of locations, what is going to be transformed as category as option, is not every single thermometer, what will be transformed into a set of categories as discrete categories is the whole division between discrete categories of temperatures in which the temperature could be sub-divided.

In the analysis of the matrix, as soon the collaboration starts working what is very important is to distinguish between factors as only meters or artificial sensors, working as subjects, whose related category in the application is that set of categories related to the discrete categories in which the unit of measure could be subdivided, and factors as options related to objects or phenomena, able to be classified in the application according to the category for that object.

Understanding the different types of factors, according to the nature of the factors, should make it possible to find the correlation of a factor within the application.

In order to achieve that level of development making the matrix able in the sixth phase to work as a mirror between the two sides of the brain, is necessary to start the experimentation of how the collaboration should work between these two types of

intelligences, application and deduction, interchanging information (categories/factors), and making any modification on the information shared, or the communication of the elimination of some information.

This collaboration sharing categories/factors between application and matrix is the category/factor collaboration, and the first process of this collaboration is the process able to include categories as new factors within the matrix, and how to include factors as new categories within the application. This first process of collaboration as the second phase is located in the first stage of both specific intelligences, by Application and by Deduction,

This process was analysed in the last post from the perspective of the application, following the thread of this new series of posts dedicated to the third stage in by Application, where I am analysing the categorical Modelling System first, and later I will analyse the categorical Decisional System and categorical Application System.

Once the category/factor collaboration is able to work, sharing any update in the specific conceptual database of categories as first stage by Application with the specific matrix as first stage in by Deduction, and vice versa, sharing any update in the specific matrix with the specific database of categories, once the first stages of these both specific intelligences, by Application and by Deduction, in any specific science, discipline, or activity, in the second phase, starts working, the first consequence is the possibility in the second stage by Application to start matching real objects according to the new update in the database based on the collaboration with that specific matrix, and in the second stage by Deduction to start matching pure reasons with the matrix updated based on the collaboration with the application.

And the second consequence is the necessary update of the following steps in the third stage, subdivided in four steps in both intelligences, by Application and by Deduction. From the point of view of by Application, having as first step the categorical Modelling System, due to the update of the conceptual database of categories based on the category/vector collaboration, the need to update the conceptual scheme, as first stage of the categorical Modelling System, according to the update in the conceptual database categories. As it was analysed in the last post.

And as soon as the conceptual scheme, as first stage of the categorical Modelling System, is updated, based on the category/factor collaboration, upon this update, to update the second stage of the categorical Modelling System according to the category/vector collaboration, what is going to be analysed on this post.

The second stage of the categorical Modelling System consists of the following processes: the set analysis, the modelling process of any object based on the set analysis, and the location of the model on the map, but introducing in this some process some innovations not mentioned before when analysing the “[specific categorical Modelling System, second stage](#)”.

Innovations for the second phase of the categorical Modelling System is the distinction between logical/conceptual sets and only quality sets, and how should be done the analysis of these sets, and distinguishing between single evolutionary and predictive models and comprehensive evolutionary and predictive models, innovations to be added as well to the post “[Specific categorical Modelling System, second stage](#)”.

Starting with the difference between logical/conceptual sets and only quality sets, if we analyse a family tree, the logical/conceptual sets are the sets related to: grandfather, grandmother, single, husband, wife, father, mother, son, daughter.

If a son got married, the son is still in the conceptual/logical set of a son, plus the conceptual/logical set of husband, and the conceptual/logical set of father. One person at the same time could belong to these sets: son or daughter, husband or wife, father or mother. And in case that his or her son or daughter had a baby, another logical/conceptual set should be added, the category of grandfather or grandmother.

If one person instead of getting married is still single but had a child (because of adoption or living in partnership but not getting married), this person only participates in the conceptual/logical sets of: son or daughter and father; but if his or her son or daughter had a baby, this person will participate in the logical/conceptual set of grandfather or grandmother.

If one person is single in their life, not having children, the only conceptual/logical set in which this person is participating is the conceptual/logical set of a son.

In addition to the conceptual/logical sets, it is possible to generate other quality sets not related to conceptual/logical sets.

If in previous posts I have defined conceptual/logical sets as sets where the items within the set are all those ones sharing some specific quality in common, in this definition there is no distinction between the conceptual/logical sets and any other quality sets, for instance, I am only a son because I did not get married and I have no children, but instead I can belong to the quality set of those people dedicated to develop Artificial Intelligence.

For that reason is necessary to introduce some new variables in the definition of conceptual/logical sets in distinction to other different quality sets, as for instance, conceptual/logical sets are those quality sets which belong to the same conceptual/logical structure/organisation according to the criteria of that structure/organisation.

For that reason, all conceptual/logical sets are quality sets, but not all quality sets belong to the same conceptual/logical sets.

If any object can be described as a member of a range of quality sets, as long as some of these quality sets belong to different conceptual/logical structures, that object will belong to as many conceptual/logical structures as quality sets within that object belong to different conceptual/logical structures, although, not necessarily all quality set has to belong to a conceptual/logical structure.

The conceptual/logical sets where oranges and mandarins are located are the set of fruits, and within the set of fruits, the set of citrus. But at the same time that oranges and mandarins share the conceptual/logical sets of fruits and citrus, oranges and mandarins are within other quality sets, as for instance, the set of fruit with orange colour, or the set of fruit with vitamin C. And not necessarily in the set of fruits with orange colour, there are only citrus, many tropical fruits, not being citrus, are orange when ready to be eaten. Or not only citrus have C vitamin, there are other fruits with C vitamin, although not as concentrated as in citrus.

In a family tree some members of the family can share sets related to conceptual/logical relations within the family regarding: grandmother, grandfather, husband, wife, father, mother, son, daughter; but at the same time every member of the family can be included within other quality sets, as for instance, the set of blonde hair, or the set of dark eyes, or the set of tanned skin, or sets related to: height, weight, attitudes, intelligence, studies, career, profession, salary, ideology, religion, etc...

But in the same way that the sets regarding: profession, ideology, salary, etc... are only quality sets in relation to that position of that person in his or her family, if that person in the organigram of his work, or in his or her church, or in a political party or Union, that person occupies some responsibility or category, what it could be only perceived as a quality set in relation to his or her family, this person could be placed as well within the conceptual/logical sets for his or her workplace, church, party or Union.

In other words, the perception of what is only a quality set or a conceptual/logical set within a structure or organisation will depend on the perspective of what structure/organisation is taken as a reference for the completion of the conceptual scheme.

From the perspective of a company, your definition as only son or daughter, or as son or daughter and husband or wife only, or as son or daughter and husband or wife and father or mother, will be only a quality set external to the main purpose of the company, your production as a worker.

From the point of view of your family, the position that you can occupy in your workplace, or your position in your church, or your position in your political party, or your position in your Union, all of them are quality sets external to the main purpose of your family, the sexual reproduction of the human species.

In the organisation of the conceptual scheme, a quality set that in some places of the conceptual scheme works as a logical/conceptual set, for other places of the conceptual scheme only works as external, not directly related to the structure/organisation of that conceptual/logical set.

In other words, all set is a quality set, but only some quality sets, related to some conceptual/logical natural or social structure/organization, become conceptual/logical sets, as to be considered as the criteria for the completion of the conceptual scheme in those natural or social structure/organization whose schemes depend on these quality sets as conceptual/logical sets.

In this way, all new category added to the conceptual database of categories as first stage by Application, as soon the new category is placed in the conceptual scheme, the place of this category on the conceptual scheme will depend on what conceptual/logical scheme belongs to, and the new category will be placed in the right place that the category has according to the conceptual/logical relations between the new category and the conceptual scheme, what should be analysed using for that purpose the information weight.

The information weight for a new category should be the result of the addition of all the information among all the vectors that the category has in the structure/organisation due to conceptual/logical sets. Only vectors connecting the category with other categories in the same conceptual/logical structure/organisation should be taken for the addition of all the information of these vectors to determine the importance and place of this category in the conceptual scheme. The rest of the vectors linking the category with categories not related to the structure/organisation where the category has been placed should not be taken into account for the information weight.

This means that at the end, there are these types of vectors/sets:

- Logical/conceptual vectors/sets: to be considered for the logical/conceptual information weight to place a new category within the conceptual scheme of that structure/organisation taken as a reference, vectors linking any category with any other category within the same structure/organisation taken as a reference.
- quality vector/sets: the rest of the vectors/sets between the category and any other not included as logical/conceptual vectors/sets

According to this classification, when a real object is matched with the new category, depending on the margin of error, the vectors/sets that the real object can have are:

- Logical/conceptual vectors/sets connecting the real object with categories within the same structure/organisation taken as reference. These would be conceptual/logical internal vectors, whose addition of their information will be the information weight of the new object within the conceptual scheme.

- Logical/conceptual vectors/sets connecting the real object with categories related to other different structures/organisations, different to that one taken as reference. These would be part of the external vectors. For instance, the logical/conceptual vectors/sets of a family tree and the logical/conceptual vectors/sets of a shop run by the same family

- Quality vector/sets of the real object shared with the category attributed, although not linked to conceptual/logical sets, but as long as these links are in the attributed category as quality sets these are still quality internal vectors, but not taken on account for the information weight of the object within the conceptual scheme.

- Quality vector/sets of the real object not shared with the attributed category, external vectors as well.

This structure at the end what would mean is the possibility that one real object, within the conceptual scheme, could be placed in two or more different conceptual/vector sets when the real object could be placed in two or more structures/organizations, for instance, a person could be placed in the conceptual scheme of his/her family, the conceptual scheme of his/her work, the conceptual scheme of his/her church, the conceptual scheme of his/her party, the conceptual scheme of his/her Union. For the conceptual scheme of his/her family, any other conceptual/logical set not related to the family, is an external quality set, even if the work set, the church set, the party set, or the Union set, along with any other possible quality set not necessarily linked to any structure/organization as to be a conceptual/logical set.

But this level of complexity is going to be much more common in the Unified Application, particular applications for particular programs, the integrated Global Artificial Intelligence. In the second phase this complexity level will be achieved very rarely.

Coming back to the example of the plantation, if it is necessary to match a farmland with the right seeds to cultivate the land, the real object to match with the right category of seeds is the land, so if the land is the real object to match with right seeds, the conceptual/logical sets to analyse specially are more related to the chemical composition of the land, and the weather in that geographical area, as to identify what type of seeds is more suitable for that land.

If in the example of the automatic delivery system, the real object to match is a packet, to be delivered to its destination, the conceptual/logical sets to analyse are all those ones related to the size of the packet and the fragility, risk level, urgency, of this packet, as to be delivered in the most suitable means of transport with the highest levels of security and surveillance.

Once the logical analyses of the sets are done, analysing all the vectors linking this object with other categories within the margin of error, the model is done according to this analysis, placing them in the model on the map.

Later on the third phase, according to the analysis of the sets involved in the real object, having designed set of decisions for every quality set, including logical/conceptual sets, and sets of decisions according to geographical area, according to the set analysis and the geographical area the sets of decisions are going to be analysed to distribute/attribute the right decisions for that real object.

At this point in the construction of the Global Artificial Intelligence, the second phase, the distribution of sets per real object is not as complex as it is going to be in the Unified Application.

In the second phase the distinction between logical/conceptual vectors sets and quality sets is important because as soon a new category is added to the conceptual database of categories by Application, new categories due to comprehensive knowledge objective auto-replications or the category/factor collaboration, the second stage by Application is going to start the attribution of real objects to the new categories, and that by that time is necessary that the conceptual scheme as first stage of the categorical Modelling System must have ready all the connections as conceptual/logical set/vectors as well as any other quality set/vector in which the new category could be placed, as to start the first categorical check of that first object, first categorical check consisting of the critic of the

number vectors and the critic of the importance, doing at least these two first categorical checks for the first object attributed to this new category, and after this first real object, making as well the critic of the level of harmony between the quantitative qualities of every new real object added to this category and the rest of objects already added to this category.

As soon the first categorical check is completed, the second stage of the categorical Modelling System should check again, second categorical check, every vector and every set where the real object has been placed, checking that every logical/conceptual set as any other quality set is right, not having contradictions between them (having more probability of contradictions utilitarian attributions) as to model the real object (the model of the farmland, the model of the package, the model of a mineral, the model of a plant,), checking once the model is done that the model is enough isomorphic as to be placed on the map, checking in the fourth categorical check that the position on the map of this model is correct.

Because the category/factor collaboration is not only for the inclusion of new categories within the specific conceptual database of categories as first stage by Application, or inclusion of new factors within the specific matrix as first stage by Deduction, including as well the communication of any modification or elimination of any category or quality of any category, between the specific conceptual database of categories and the specific matrix, at any time that any category or quality of any category, within the specific database of categories as first stage by Application, is modified or eliminated, this modification or elimination of any category or any quality of any category should be communicated to the conceptual scheme, rearranging the categories and qualities within the conceptual scheme according to this modifications or eliminations of categories or qualities of categories, creating, modifying, or eliminating, as many vectors/sets as necessary.

As long the conceptual scheme as first stage of the specific categorical Modelling System suffers any modification or elimination of any category or quality of any category, this modification will be reflected in the analysis of sets as second stage in the specific categorical Modelling System, making since then following analysis of vectors/sets having in mind these modifications/eliminations as to make new models based on these modifications/eliminations, to locate later on the map.

As a new suggestion that I would like to introduce in this post regarding the modelling process, which I have not mentioned in the post “Specific Categorical Modelling System, second stage”, is the possibility to develop not only a single or comprehensive model like something static, but dynamic one.

In the example given of the plantation, if it is possible to generate a single model of a farmland, as I had proposed in the post “Specific Categorical Modelling System, second stage”, to integrate later on the comprehensive model, locating the comprehensive model of the farm on the map, what is clear is the fact that in the end this model cannot be a static model, must be a model able to include all the different phases in which the evolution of the farmland is going to get through, is a dynamic model able to model all the evolution of the plantation, and in this sense must be an evolutionary model, ending up with a prediction model.

If the second stage of the categorical Modelling System consists of the analysis of sets/vectors, to make models, to include on the map, in fact these three processes are acting like sub-stages within the second stage of the categorical Modelling System: first sub-stage the analysis of sets according to the category attributed in the second phase by Application and placed in the conceptual scheme as first stage of the categorical Modelling System, second sub-stage the modelling of the real object according to the analysis of sets, third sub-stage the location of the model on the map.

If the second stage of the Modelling System is defined in three sub-stages: analysis of sets, model based on the analysis of sets, and position of the model on the map. The models to do according to the analysis of sets are:

- Single categorical evolutionary model, the model of every phase of that real object according to the category attributed. If the model is a farmland, the evolution of the farmland since planting to harvesting.
- Single categorical prediction model, the model of the real object at some point in the future.
- Comprehensive categorical evolutionary model, as a result to include in a global categorical evolutionary model all the single categorical evolutionary models.

- Comprehensive categorical prediction model, as a result to include in a global categorical prediction model all the single categorical prediction models.

If there are two types of comprehensive categorical models: evolutionary or prediction models, then there will be two possible different maps:

- Comprehensive categorical evolutionary map, the map of a geographical area including all the single categorical evolutionary models comprehended in the global categorical model of that area.

- Comprehensive categorical prediction map, the future map of a geographical area, including every single categorical future model within the comprehensive categorical future global model of that area.

Rubén García Pedraza, 1 February 2020, London

Reviewed 18 May 2025, London, Leytostone

[Probabilidad Imposible: Collaboration between categorical and deductive specific Modelling System, second stage](#)

imposiblenever@gmail.com